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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,037	04/24/2006	Willy Marrecau	016782-0351	4400
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EXAMINER				
SYKES, ALTREV C				
ART UNIT		PAPER NUMBER		
1794				
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12/23/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,037

Applicant(s)

MARRECAU, WILLY

Examiner

ALTREV C. SYKES

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/22)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Response to Amendment

1. The amendment to the claims is acknowledged by examiner and has been entered.
Applicant has added claims 32 and 33. Claims 18-33 are pending prosecution as to the merits.

Response to Arguments

2. Applicant's arguments with respect to claims 18-31 have been considered but are moot in view of the new ground(s) of rejection. (See interview summary of 10/27/09)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 18-20, 21, 25-29, and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (US 3,698,863) in view of Fromson (US 2,728,136).

Regarding claims 18-20, Roberts et al. discloses a metallic filament which has an effective diameter of less than 50 microns. (See Col 1, lines 15-17) Roberts et al. discloses the metallic filament may be substantially bimetallic. (See Col 1, lines 24-26) Roberts et al. discloses the metallic filament has a series of cross-sectional areas taken along the length of said filament. (See Col 3, lines 3-5) Roberts et al. discloses nickel material surrounded by steel matrix material. (See Col 5, lines 21-25) Roberts et al. discloses nickel material surrounded by aluminum matrix material. (See Col 5, lines 33-36) Roberts et al. discloses the filaments have an extremely small diameter, for example, down to approximately 0.002 inch or 50 microns or less. (See Col 8, lines 8-10) Roberts et al. discloses the filaments are ultimately formed may comprise a metal wire formed of a suitable material such as nickel, stainless steel, titanium and its alloys and the like. (See Col 8, lines 35-37) Roberts et al. does not specifically disclose the first metal is different from the second metal for each zone of the cross section.

Fromson discloses clad meta sheets. The corrosion resistant alloys, for example, are considerably more expensive than ordinary steel, but lack many of its advantages as a structural metal. However, a sheet of steel clad with a relatively thin outer skin of a corrosion resistant alloy has the advantageous corrosion resistance of the alloy, combined with the structural advantages of the steel and is less expensive than a sheet of the corrosion resistant alloy of the same strength. (See Col 1, lines 15-26) Fromson discloses during this rolling procedure, the two metals are welded together so that when the sheet

or plate is trimmed or cut into smaller pieces, the two layers of metal do not separate. (See Col 1, lines 50-55) Fromson discloses a bimetallic or a trimetallic plate or sheet, of three layers of metal, one which as a core layer of one metal, having another metal on each of its outer surfaces or having different metals on its outer surfaces. (See Col 2, lines 30-36) Fromson discloses a sheet of metal which consists of three layers of metal may be formed wherein the outer layers of may be the same or different metals. (See Col 6, lines 1-4)

As Roberts et al. and Fromson are both directed to bimetallic materials, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the bimetallic and trimetallic sheets as taught by Fromson in order to form metal fibers as disclosed by Roberts motivated by the desire to provide a composite metal material which may be cut into fibers which would have the advantages of corrosion resistance combined with structural strength but cost effective. (See Col 1, lines 15-26)

Regarding claims 21, and 25-27 examiner notes that applicant discloses in the instant specification at two opposite sides of the quadrangular cross section, this first zone is bound by a second or a third zone 302. (See pg. 9, lines 31-33) Therefore, the examiner notes that the position of the second and third zones relative to one another would be dependent on the cross-section. Roberts et al. discloses the filaments can have a preselectable irregular geometric cross-sectional shape (regular geometric shape being

defined as square, circle, hexagon, etc.). (See Col 2, lines 1-3) Roberts et al. discloses the metallic filament has a series of cross-sectional areas taken along the length of said filament. (See Col 3, lines 3-5) As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cross section of the metal fiber of modified Roberts in order to provide a fiber wherein the second and third zones are opposite each other.

Regarding claim 28, Roberts et al. discloses a bimetallic filament which can have a controlled cross-sectional area that is non-uniform along the length thereof but is uniform within a specified range. (See Col 2, lines 7-11) Roberts et al. discloses the filaments may have preselected peripheral surfaces, controlled uniformity, preselected surface to volume ratios and be bimetallic. (See Col 2, lines 52-56) Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the amount of the first metal to provide at least 90% of a perimeter motivated by the desire to tailor the properties of the final fibers.

Regarding claim 29, Roberts et al. discloses regions for stainless steel filament material. (See Col 4, lines 60-65) Therefore, the use of a stainless steel as a metal for a bimetallic fiber is taught by the prior art.

Regarding claims 32-33, Roberts et al. discloses the filaments can have a preselectable irregular geometric cross-sectional shape (regular geometric shape being defined as

square, circle, hexagon, etc.). (See Col 2, lines 1-3) Roberts et al. discloses a bimetallic filament which can have a controlled cross-sectional area that is non-uniform along the length thereof but is uniform within a specified range. (See Col 2, lines 7-11) Roberts et al. discloses the metallic filament has a series of cross-sectional areas taken along the length of said filament. (See Col 3, lines 3-5) Fromson discloses a bimetallic or a trimetallic plate or sheet, of three layers of metal, one which as a core layer of one metal, having another metal on each of its outer surfaces or having different metals on its outer surfaces. (See Col 2, lines 30-36) Therefore, a prima facie case of obviousness exists for one of ordinary skill in the art at the time of the invention to provide at least one cross-sectional location wherein all zones are present since Roberts et al. teaches having controlled cross-sectional areas. (See Col 2, lines 7-11) It would have also been obvious to one of ordinary skill in the art at the time of the invention to provide a metal fiber wherein at least a portion of each of the zones is externally exposed since Fromson discloses a trimetallic sheet having different metals on its outer surfaces.

6. Claims 22, 23, 25-27, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (US 3,698,863) in view of Fromson (US 2,728,136) as set forth above for claim 18, and further in view of Terliska (US 4,265,703).

Regarding claims 22, 23, 24, 30, and 31 modified Roberts et al. does not specifically disclose wherein the third metal is selected from the group as claimed by applicant or is a metal oxide.

Terliska discloses a fibrous structure containing metallic fibers. (See Abstract) Terliska discloses metallic fibers having cross-sections of different shapes, for example round, oval, rectangular, square, triangular, or shaped as an L, T or Y. (See Col 3, lines 35-40) Terliska discloses the metallic fibers may have any composition: aluminium, copper, stainless steel, titanium, nickel, lead, tantalum, etc., metallic oxides (notably oxides of Cu, Al, Fe, Ti, Ni, Mo, Pb, V, Ta) and alloys. These fibers may even have a bimetallic structure. (See Col 3, lines 49-53)

As modified Roberts et al. and Terliska are both directed to bimetallic structures, the art is analogous. Since Fromson is not explicit to a certain type of metal for the clad metal sheets, it would have been obvious to one of ordinary skill in the art to utilize the known metals as taught by Terliska for the metal fibers of modified Roberts. Additionally, a prima facie case of obviousness exists for one of ordinary skill in the art to substitute one known element for another (i.e. a copper or nickel oxide in place of the nickel or copper metals taught by Morrison) in order to obtain a known result of tailoring the metal fibers for bending and shape formation. A prima facie case of obviousness exists for one of ordinary skill in the art to utilize the same metal for two of the clad metal sheets of

Fromson in order to obtain a known result of tailoring the metal fibers for bending and shape formation since the Fromson reference is not explicit.

Regarding claims 25-27, in the alternative of that set forth above, it would have been obvious to one of ordinary skill in the art to modify the cross-section of the fibers as desired since both Roberts et al. and Terliska teach the cross-sections of metal fibers may have different shapes both regular and irregular. (See Roberts Col 2, lines 1-3 and Terliska Col 3, lines 35-40)

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Perry (US 3,453,888) discloses a thermostatic bimetal in the form of an integral strip formed by first and second layers bonded together. (See Col 1, lines 10-12)

Farber et al. (US 3,173,202) discloses methods of bonding two or more strips, sheets, or slabs of metals to each other with a tenacious bond. (See Col 1, lines 11-15)

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALTREV C. SYKES whose telephone number is (571)270-3162. The examiner can normally be reached on Monday-Thursday, 8AM-5PM EST, alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1794

/ACS/
Examiner

Application/Control Number: 10/573,037

Page 10

Art Unit: 1794

12/16/09